Niveau(x) d'enseignement: 5 Numéro EDUQ : 8670589
Centre d'intérêt: 750

Legendre, Louis J (Louis Joseph).

Curricular alternative for teaching literary criticism / Louis Joseph Legendre. -- [Sainte-Foy] : National Institute for Scientific Research, [1973?].
22 f. ; 26 cm.

Titre de la couv. Code: C-09. Bibliogr.: f. 22.

Vedette(s)-secondaire(s): Institut national de la recherche scientifique (Québec)

Descripteur(s): Français (Langue) * Enseignement assisté par ordinateur * Analyse textuelle * Elaboration de programmes * Secondaire (Ordre d'enseignement) * Collégial (Ordre d'enseignement)

Le but de l'article est de montrer comment l'ordinateur peut être utilisé pour enseigner l'analyse et la critique littéraire aux niveaux secondaire et collégial. L'auteur indique comment il a résolu le problème de la création d'un programme d'analyse littéraire avec ordinateur et le problème de l'utilisation de ce programme par les étudiants. Il rapporte ensuite les résultats d'une expérimentation qui fut faite par quatorze étudiants américains, de niveau secondaire et collégial, en juillet 1972 et les résultats d'une pré-expérimentation qui s'est déroulée au Campus Notre-Dame-de-Foy, à Cap Rouge, en mai 1973. Le modèle développé offre une solution de rechange pour l'étude de la littérature.

Type de document: r

008464

EDUQ 8670589

Curricular Alternative for Teaching Literary Criticism

Louis Joseph Legendre

National Institute for Scientific Research, University of Quebec

C-09

The purpose of this study was to bring the retrieval computer possibilities to the high school and college classroom as one curricular alternative for the teaching of literary criticism and analysis for any language based on an alphabet.

The need for the study comes from the ever increasing volume of literature as shown in the Publishers Weekly (1960-1972) and the monthly Cumulative Book Index (1898-1972). Faced with this amount of literature, one classroom solution was detailed explanations of a small sample extrapolated into evaluations of authors' total works. Too often, such a sample proves to be atypical of a given author's overarching concerns, as noted by Lynch an Evans (1963) in their study of literary excerpts used in high school anthologies.

To bring a possible alternative to this classroom situation, this study intented to create a model through which users were assumed (1) to improve their development of literary hypotheses or assertions by testing same against the validity of descriptor words and against the comparisons of the literary hypotheses with sentence populations and descriptor choices; (2) to build, test, and refine their literary hypotheses or assertions faster than they would with traditional referencing techniques.

The model was faced with a twofold problem: a system-oriented problem and a user-oriented problem.

The first step toward solving this problem consisted in the choice of an experimental literary text. Les Fables of La Fontaine was chosen for (a) the difficulty of the French accents, and the metrical counts in classical and free lines, (b) for the advantage of more than 300 short literary units within the text and of the great popularity of the work in French literature.

The related literature did not reveal any attempt to provide the high school and college classroom with computer-aided referencing techniques for literary purposes. However, Sedelow's Verbal Indexing Association (1967), the General Inquirer (1966), and more precisely Smith's Random Access Text System (1972) paved the way to such a study.

This paper will present how the twofold problem was solved, how fourteen American Ss worked with the completed model in July 1972, and how a regular class used it in May 73 during the preparation of an experimentation with control groups scheduled for 1973-74.

Procedures of the System-Oriented Problem

Procedures used in developing the computer model for literary analysis included: (1) encoding and keypunching Les Fables, (2) preparing operational computer files, (3) creating computer programs for specific literary analysis.

Table 1 presents how the encoding and keypunching problems were solved. Figures 1 to 5 for the five French accents and 6 for a capital letter are punched after the character they modify. Words are blank-delimited; the slash indicates the end of a syllabe, the basic unit of French metrics. The period, interrogative and exclamatory marks were recognized to identify the end of a sentence except when preceded by the symbol @. $$$ indicated a new book, @@@ a new fable, *** a title line, * a title word not to be added to the frequency count in the word dictionary. Column 72 of the hollerich card was reserved for the continuation symbol of a poetical line overlapping another card. Columns 73-75 contained rhyming information: (1) column 73, the rhyme quality, masculine or feminine; (2) columns 74-75, how many lines before (-) or after (+) the current line was located the line rhyming with the one under investigation.

The operational computer files were created from the punched cards in three steps. The card reading program processed the huge textual order of the text words, each with its hierarchical information connecting it to the right book, fable, sentence, line, part of the sentence and of the line, keeping track of all necessary information for rhyming words or words within quoted passages.

This file of the textual order of the words was then sorted alphabetically. From this alphabetical order of the words, three files

were created simultaneously in accordance with Smith's RATS technique, as shown in Table 2. Each of these three files had two pointers; each pointer served as the address of one word or of its hierarchical information, the first pointer giving the address of its own location, the second the corresponding address in the succeeding file where the files are considered in a circular succession. These three files comprised (a) the dictionary of the words and their frequencies, the (b) alphabetical, and (c) textual orders of the hierarchical information of each occurence of the words.

The manipulation of these three files was done by programs for specific literary analyses: (a) the word descriptor program which printed sentences of the literary text where matches were found with up to fifteen words or roots of words connected with the appropriate logical operator: OR (no restriction), AND (maximum of five), NOT (only once); (b) the metrical program which printed pairs of lines of specified lengths when the first line ends without punctuation mark; (c) the line length program which printed tables of line lengths throughout Les Fables.

The data for the first two programs consist of the specific user choices: up to fifteen words for the descriptor word program; the two specified lengths for the metrical program. The main concern of this model was not to induce the users to develop computer science abilities, but to take advantage of the computer facilities

Table 1

Sample of Les Fables of Jean de La Fontaine as Prepared
on Cards to be the Basic for the Creation of the
Computer-Readable Form of the Text

Col. 1	Col. 72-75
$$$	
****0 *. *A2 *M6ONSEIGNEUR *LE *D6AUPHIN *.	F ≠ 1
JE/ CHAN/TE/ LES/ HE1/ROS/ DONT/ E61/SO/PE EST/ LE/ PE2RE/.	F - 1
TROU/PE/ DE/ QUI/ L ' HIS/TOI/RE. EN/COR/ QUE/ MEN/SON/GE2RE/ .	M ≠ 1
CON/TIENT/ DES/ VE1/RI/TE1S/ QUI/ SER/VENT/ DE/ LE/C5ONS/ .	M - 1
TOUT/ PAR/LE EN/ MON/ OU/VRA/GE . ET/ ME3/ME/ LES/ POIS/SONS/ :	@
CE/ QU ' ILS/ DI/SENT/ S ' A/DRES/SE A2/ TOUS/ TANT/ QUE/ NOUS/	F ≠ 1
SOMMES/ :	F - 1
JE/ ME/ SERS/ D ' A/NI/MAUX/ POUR/ INS/TRUI/RE/ LES/ HOMMES/ .	M ≠ 1
IL/LUS/TRE/ RE/JE/TON/ D ' UN/ PRIN/CE AI/ME1/ DES/ CIEUX/ .	M - 1
SUR/ QUI/ LE/ MON/DE EN/TIER/ A/ MAIN/TE/NANT/ LES/ YEUX/ .	F ≠ 1
ET/ QUI/ , FAI/SANT/ FLE1/CHIR/ LES/ PLUS/ SU/PER/BES/ TE3TES/ .	F - 1
COMP/TE/RA/ DE1/SOR/MAIS/ SES/ JOURS/ PAR/ SES/ CON/QUE3TES/ .	M ≠ 1
QUEL/QUE AU/TRE/ TE/ DI/RA D ' U/NE/ PLUS/ FOR/TE/ VOIX/	M - 1
LES/ FAITS/ DE/ TES/ A/I4EUX/ ET/ LES/ VER/TUS/ DES/ ROIS/ .	F ≠ 1
JE/ VAIS/ T ' EN/TRE/TE/NIR/ DE/ MOIN/DRES/ A/VEN/TURES/ .	F - 1
TE/ TRA/CER/ EN/ CES/ VERS/ DE/ LE1/GE2/RES/ PEIN/TURES/.	M ≠ 1
ET/ SI/ DE/ T ' A/GRE1/ER/ JE/ N ' EM/POR/TE LE/ PRIX/ .	M - 1
J ' AU/RAI/ DU/ MOINS/ L ' HON/NEUR/ DE/ L ' A/VOIR/ EN/TRE/PRIS/.	
@@@	
****1 *. *LA *C6IGALE *ET *LA *F6OURMI *.	M ≠ 1
LA/ C1/GA/LE , AY/ANT/ CHAN/TE1/	M - 1
TOUT/ L ' E1/TE1/ ,	F ≠ 1
SE/ TROU/VA/ FORT/ DE1/POUR/VUE	

Table 2

Interrelations Between the Three Dictionaries

Sample of Sentences

1.1 1.2 1.3 2.1 2.2 2.3 2.4 2.5 3.1 3.2 3.3 3.4 3.5
-- Rien . -- Quoi ? rien ? -- Peu de chose .

4.1 4.2 4.3 4.4
-- Mais encore ?

Word Dictionary				Alphabetical Order			Textual Order		
(1)	Word	(4)	(2)	(1)	(5)	(2)	(1)	(5)	(3)
1	.	2	1	1	1.3	3	1	1.1	2
2	--	4	3	2	3.5	13	2	1.2	10
3	?	3	7	3	1.1	1	3	1.3	1
4	CHOSE	1	10	4	2.1	4	4	2.1	2
5	DE	1	11	5	3.1	9	5	2.2	9
6	ENCORE	1	12	6	4.1	14	6	2.3	3
7	MAIS	1	13	7	2.3	6	7	2.4	10
8	PEU	1	14	8	2.5	8	8	2.5	3
9	QUOI	1	15	9	4.4	17	9	3.1	2
10	RIEN	2	16	10	3.4	12	10	3.2	8
				11	3.3	11	11	3.3	5
				12	4.3	16	12	3.4	4
				13	4.2	15	13	3.5	1
				14	3.2	10	14	4.1	2
				15	2.2	5	15	4.2	7
				16	1.2	2	16	4.3	6
				17	2.4	7	17	4.4	3

(1) Self pointers;
(2) Pointers to the next file;
(3) Pointers to the first file;
(4) Word frequency;
(5) Basic hierarchical information.

to develop their own critical skills in the field of the humanities.

Procedures for the User-Oriented Problem

Before, during and after the preparation of data for the computer program the model user has to apply, as strictly as possible, a scientific attitude towards his own literary field of study which includes: critical reading of the entire literary work under investigation, identification of a literary problem or hypothesis, analysis of the output literary data, deduction from this analysis of objective argumentation related to the literary problem.

Personal reading of the literary work remains the starting and most important point of any serious literary research. Here literary work refers to the specific drama, novel or book of poetry under investigation, such as Shakespeare's Hamlet, as opposed to his whole theater. Such a literary work should be read in its entirety according to the recommandation of the Anglo-American Conference at Dartmouth College (Muller, 1967). And the conference was one of many "to recognize the urgent need for a different approach to the problem of teaching English", according to Moore and Kennedy (1971; p.406).

The proposed model always searches through the entire literary work,

starting from specific symbols, mainly words, roots of words or punctuation marks. Such a starting point imposes a scientific approach to literary analysis: the habit of defining ideas, themes, characters, style, in terms of specific words. Such a principle is not new: it is supported by the whole trend of indexes and concordances. In French literature, Paul Valéry (1945) traces back this principle to the symbolist poet Mallarmé and to the literary critic Sainte-Beuve. Through this model, the user can store and cross-reference within a specified literary work simultaneously up to fifteen words, roots of words or punctuation. Through the help of this model, the user does not have to spend days trying to cross-reference the book for a particular idea, theme, image or feeling which developed while he was rereading the text with a predetermined concept. With the model, after sound readings of the book and re-readings of important parts, the user's main concern is to define his concept through words or roots of words or even punctuation marks. He must, through words, create a kind of map of his concept, a map he can fit to his particular purpose and change according to his needs. All the strenuous effort of storing and cross-referencing the words of his choice is done by the model within seconds with a fidelity and objectivity out of reach for a human being, in normal circumstances of time and effort.

The model provides the user with some facilities for mapping his concept. First, for up to fifteen words, the users can define as

many roots as he wants and can define them as he wants at least for the right-most parts of the words: after writing the letters he needs in the root, he adds a slash. Second, the logical operators, AND, OR, NOT, must link the different words of the map. The program will store every sentence in which are found (a) any one of the words contiguously linked with ORs, (b) at least one word before the first AND and at least one word after each of the possible five ANDs, (c) at least one word after the last AND if any before NOT, and none of the words after NOT.

When the choice of descriptor words and logical operators is complete, the user can choose two different listings by the addition of a single symbol: (a) a common listing of all the selected sentences, (b) separate listings for each of the descriptor words.

Submission of the descriptor words as a regular computer job provides a useful break in the user's activity. The preceding activity has developed a special kind of discovery thinking, the first step of what Tatsuoka and Tiedeman (1963, p.162-3) called their hypothetico-deductive-observational method in which they required every step to be scientific or measurable. The creation of a hypothesis must have the freedom of invention necessary to the discovery technique coupled with a formulation of correlations between the elements, here the words and the logical operators. Such a formulation is realized in the tentative literary hypothesis

accompanying the choices.

The second step of Tatsuoka's method takes place upon reception of the output from the computer. As stated earlier, this output contains the population of sentences or lines corresponding exactly to the word map represented by the selected descriptors during the invention phase. Thus the output is a true population only with regard to the selection of descriptors. Inasmuch as these descriptors map the concept under investigation, in that very same measure does the output represent the same hypothesis or concept. Keeping in mind these two implications, the user is expected (1) to study each sample of the population, the observation phase, and (2) to draw conclusions from his observations, the deductive phase.

The observation phase implies the step-by-step study of each sample of the population, one at a time. This study is an analysis of the sample and a synthesis of its significance. Such a synthesis, by the inductive process, is meant to discover some general law expected to match with the predictions of the working hypothesis of the invention phase. During this inductive process, two directions can be taken according to the user's intent as revealed in his working hypothesis, (1) simple induction or comparison of each sample with the hypothesis, or (2) correlations or comparisons between samples.

The simple induction is meant to verify, statistically with

reference to the population, the presence or absence of an element within a concept. For instance, a literary hypothesis can state that, in Les Fables, the rat always acts according to its nature, but thinks and speaks like a man. The simple induction process will permit the observation that each sample is false or true to one or more situations described in the hypothesis.

The same hypothesis can be taken as a working hypothesis. With reference to the previous hypothesis, correlations could be added in order to find secondary fields of interest such as (1) which of these situations--acting, thinking, speaking--is predominant, (2) what category or categories of men rats imitate in their thinking and/or speaking. Such a process can lead to ramifications of the hypothesis as in the chosen example. It can also lead to a rephrasing or remapping of the hypothesis such as in the study of the words used to "name" water in Les Fables. A critical reading of Les Fables may have revealed eau (water), onde (wave). The study of the output may reveal that some images expected to be with wave are missing. A remapping of the concept would add humid to complete the image of wave as opposed to water.

The study of correlations together with critical reading are the incentives which create the instructional environment for an independent study. The two possibilities of exploring hypotheses and remapping concept configuration establish creative invention

throughout the whole instructional model and transform it into the expansion system of a spiral model in which interest and understanding grow with actual literary exploration.

But such an expansion version of the model as well as the more modest inductive version are meant to lead to a conclusion, at least temporarily, in which statistically or not, hypotheses are supported or rejected deductively from the computer-generated data. The hypotheses in most cases, can be supported statistically in the sense that a definable proportion of the population of sentences can be found for or against a particular hypothesis. However, rare combinations of words can be less common and much more significant in poetry, such as in the study of the words meaning water, we have besides water, wave and humid. The adjective humid appears only twice in Les Fables, but for the most beautiful images (Les Fables, 1, 22, 11-16; 10, 14, 10-17).

Experimentation

During approximately twenty hours in July 1972, ten American High School Ss and four American College Ss developed ten literary hypotheses each on Les Fables of La Fontaine. As an introduction to the model, they were given a working hypothesis: all characters of Les Fables (a) act according to their nature, but (b) think and (c) speak as men. Prerun output were chosen by the Ss on one character

of their choice, such as the lion, the bear, the horse, the cat, the rat, the dog, the wolf, the fox, the donkey, the monkey.

The first observation revealed that the Ss were preoccuped to match positively or negatively each sentence with one of the three aspects of the hypothesis without any reference to the context of the sentences. As the experiment developed, the Ss became more and more interested in the nearest context in individual fables, then in the whole meaning of each fable. After twenty hours of experimentation most of the students had a good understanding of the whole masterpiece of La Fontaine.

It was also possible for the Ss to work efficiently on an individual basis. Out of the 140 different hypotheses they produced, more than 100 covered entirely different topics. More than forty characters were studied: they were studied according to the given working hypothesis. The Ss studied also how the characters--animals or elements of nature, such as the sun, the ask tree--represent individual men, classes of the human society, the weak or the strong. Human characters were studied as such, mainly women, the king, courtiers, merchants, peasants, travelers, the slaves, the poor, the rich. Most mythological characters were also studied. Studies were successful on mankind, justice, vices such as greediness and ingratitude, friendship, happiness, war and peace, on nature such as the mountains, the sun, the wind, water, surfaces of water, gardens and

fields. Out of all the topics found in the traditional critics, the Ss did not make hypotheses on language and style except on water and on the metrical problem of line couplets; they did not make any attempt at studies on religion, medicine, finance and politics as such.

Along with the development of literary analysis, the interest in the accuracy of the word mapping became a major concern when Ss knew more about the fables and when they were expecting in their outputs sentences remembered from their previous readings of the outputs or of the entire fables. While choosing and defining a new hypothesis in a discussion with the researcher, Ss started to ask more frequently if the concept they had in mind was covered by the selection of words they were proposing. This selection problem was related to content analysis or to linguistics. One hypothesis chosen by many Ss for its present interest concerned women. One aspect of this hypothesis was to find how La Fontaine had presented women. Two general situations were found: (1) in the real situation of the seventeenth century women, as servants or as ladies, and (2) through animals presented in their maternal functions or endowed by La Fontaine or by tradition with one characteristic attributed to women. Such an analysis of the situation could help Ss toward specific hypotheses and appropriate word mapping. Some word mappings were complicated by linguistic implications, such as complex word roots. Death when used as a verb required the roots:

mour, meur, mort, décéd, trépas, occir; as an abstract noun it included mythological references such as Styx, the Furies; as a concrete noun: cadavre, défunt, moribond.

The word mapping situation was an excellent occasion for dialogue between Ss and the researcher (1) because the results of the decision could be measured by both the Ss and the researcher through the output resulting from the discussion, and (2) because the Ss realized that the value of their hypotheses depended upon their ability to trace the hidden problems underlying the delimitation of the word mappings and that discussions could be helpful toward tracing these problems.

The analysis of the findings of the experimentation proved that the use of the computer model improved the users' approach to literary analysis and criticism both in the quality of their work and in the time required to build, test, and refine their literary hypotheses. Furthermore, the word descriptor computer program played a dynamic role for both the native and the foreign speakers of the French language in which Les Fables is written. The computer program on metrics was also dynamic, but only for native speakers. Dynamic in this context meant that, through the use of the computer programs, it was possible to observe that (1) learning had occured and (2) a subject matter was covered, in this case, the varied literary aspects in connection with Les Fables.

According to the principles of the hypothetico-deductive-observational method, the hypotheses were tested on the validity of the word descriptors for the input phase. The problems for this validity were related to linguistics and to the author's perception of the concept under investigation. One example was given for each, death for linguistics, women for the author's perception of the concept.

For the output phase, the hypotheses were tested according to the comparision of the hypotheses, the sentence populations, and the descriptor choices, and they were found valid in all instances even for the youngest subject, who misunderstood some of the sentences of the outputs she received, but attained valid conclusions even when she built her own hypotheses.

The experimentation, which required an average of twenty hours over a period of four weeks, gave results which might be anticipated from the activity of a ten week university term or a regular high school term or semester.

Based upon users' performances with the computer model developed as one curricular alternative for the teaching of literary analysis and criticism, this study could be judged "successful" with qualifications.

Such qualifications are based, in part, on the fact that volunteers,

rather than a general school population, completed the computer programs. These volunteers were highly motivated to explore literary criticism via the computer and perhaps their good performance with the program derived from the sheer novelty of the teaching device.

Another qualification to be considered in the success of the program was the competence and enthusiasm of the volunteers' teacher. Without such competence and enthusiasm for the computer program, teachers in regular classroom situations should not expect significant improvement in their students' performances. Competence, as used here, refers mainly to the literary and instructional fields and only secondarily to the basic techniques of the computer model.

The ideal tool for testing the computer model is an experimental design to discover whether students taught Les Fables by the model developed for this study could--in essay type questions or classroom discussions-- (1) develop hypotheses or argumentations as well supported as those of students taught by conventional teaching techniques, hypotheses, and argumentations that could be tested against the validity of descriptor words and against the comparisons of the literary hypotheses with sentence populations and descriptor choices, and (2) build, test, and refine literary hypotheses faster than students taught Les Fables by the conventional teaching techniques which are generally based on excerpts from manuals or on teachers' choices.

Such an experimentation will be realized during the academic year 1973-74 in schools of the Quebec region. It will be based on a minimum of five literary work.

A preexperimentation session at Campus Notre-Dame-de-Foy, Cap Rouge, Quebec, in May 1973 permitted at least one observation. In one high school classroom, the students read a French drama. Then they were offered the opportunity to use the model for an essay-type assignment on this play. During the first meeting, eight students volunteered to investigate a specific aspect of the play. They had to be helped for the word mapping of their tentative literary hypotheses.

One student had an interesting experience. He wanted to study all interrogative sentences assuming that a particular character was directing the whole plot through his questions. The output, with separate listings for each character, revealed unepected data: the plot director character was responsible for some 16 short questions; the two main antagonists asked some 50 long questions each in which they were exposing the fondamental problem of the drama.

The second and third meetings showed that the students who volunteered to use the model had made up their minds in a more scientific manner. They controlled the word mapping of their hypotheses

with some mastery. They knew what words they wanted to include in or exclude from their word mappings. Interesting discussions aroused among the students, discussions based on objective arguments.

Conclusion

Above all, the developed computer model offers an alternative to the ritualistic study of literature which obtains in most classrooms the world around. Such rituals consist of teacher-pupil discussion or examination of some literary text according to arbitrary conventions memorized from some literary critical text. Using the program developed for this study, each student in his own way and at his own time can pursue--in fact, discover--literary insights about an author's style and symbolism based upon the entire contexts of the author's work as opposed to excerpts from that work. As such, the program can help to catalyze individualized study in language programs by giving teachers the opportunity to organize small group activity, where one group might be working on literature with the computer assistance, another group working on compositions, still another group working with some different literary genre--all in the same classroom.

The developed program provides the same literary sources for judgment and discussion for both teachers and students. Such common foci tend to foster a deeper professional rapport between

teachers and students. These common causes are at the heart of good teaching and, if the idealized one-to-one teaching relationship is the acme of teaching, then the completed computer program for literary analysis provides much that is tutorial and catalytic in students' pursuit of literary critical competencies.

REFERENCES

Cumulative Book Index, a World List of Books in the English Language. 1898-1972. New York: Wilson.

Legendre, Louis J. 1972. A Computer-Based Model as a Curricular Alternative for the Teaching of Literary Criticism. University Park: The Pennsylvania State University.

Lynch, James J., and Evans, Bertrand. 1963. High School English Textbooks: A Critical Examination. Boston: Little.

Moore, Walter J., and Kennedy, Larry D. 1971. Handbook on Formative and Summative Evaluation of Student Learning, ed. by Benjamin S. Bloom, J. Thomas Hastings, and George F. Madaus, pp. 400-444. New York: Mc Graw-Hill.

Muller, Herbert J. 1967. The Uses of English: Guidelines for the Teaching of English from the Anglo-American Conference at Dartmouth College. New York: Holt.

Publishers Weekly. 1960-1972. New York: Browker.

Sedelow, Sally Y. Computing Surveys, June 1970, pp. 89-110.

Smith, John B. Computers and the Humanities, May 1972. pp. 277-83.

Stone, P.J., Dunphy, D.C., Smith, M.S., and Ogilvie, D.M. 1966. The General Inquirer: A Computer Approach to Content Analysis. Cambridge, Mass: The Massachusetts Institute of Technology.

Tatsuoka, Maurice M., and Tiedeman, David V. 1963. Handbook of Research on Teaching, ed. by N.L. Gage, pp. 142-170. Chicago: Rand McNally.

Valery, Paul. 1945. Variété V. Paris: Gallimard.